

Notice of Allowability

Application No.

10/805,632

Examiner

Bernard E. Souw

Applicant(s)

YEREMIN ET AL.

Art Unit

2881

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 02/18/2005.
2. ☒ The allowed claim(s) is/are 1-6.
3. ☒ The drawings filed on 22 March 2004 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

DETAILED ACTION

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this Examiner's Amendment has been given during a phone conversation with applicant's attorney, Mr. Ilya Zborovsky, Reg. No. 28,563, on March 03, 2005.

In the claims:

- ▶ In (amended) claim 1, line 1, after "*of evaluating*", prior to "*a measuring*", delete **[of]**
- ▶ In (amended) claim 1, line 11, after "*producing*", prior to "*storing*", insert **--and--**.
- ▶ In (amended) claim 1, line 16, prior to "*and a maximal deviation*", delete **[Δ_{ave}]** and insert **-- Δ_{ave} --**.
- ▶ In (amended) claim 1, line 16, after " Δ_{max} " prior to "*and if a maximum*", insert **-- ; --**.

Applicant's Amendment

2. The Amendment filed 02/18/2005 has been entered. The present Office Action is made with all the arguments being fully considered.

The specification has been amended, including the abstract.

Figure 2 has been amended.

The claims have been amended.

Claims 1-6 remain pending in this office action.

Objection to the Specification Withdrawn

3. The specification/abstract having been properly amended, the previous objection is now withdrawn.

Objection to the Claims Withdrawn

4. The claims having been properly amended, the previous objections to the claim language are now withdrawn.

Objection to the Figure Drawings Withdrawn

5. Fig.2 having been properly amended, the previous objection is now withdrawn.

ALLOWANCE

6. Claims 1-6 are allowed.

Reasons for Allowance

7. The following is an examiner's statement of reasons for allowance:

A method of evaluating a measuring electron microscope, comprising the steps of setting such modes of operation of a microscope that will be used for subsequent measurements of sizes and line edge roughness; introducing a test-object that is known

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to have a straight edge, scanning the test object with an electron beam; localizing the edge of the test object on the image on each line of scanning; producing and storing a set of values of a coordinate $X(i)$ which correspond to a position of the edge of an i -th line of scanning; approximating the sets of values $X(i)$ with a straight line; calculating deviations $\Delta(i)$ of coordinates $X(i)$ from a straight line on each scanned line; analyzing a set of values of the deviations $\Delta(i)$, calculating an average deviation Δ_{ave} and a maximal deviation Δ_{max} ; and if a maximum value of deviation Δ_{max} exceeds an acceptable tolerance, making a conclusion whether or not the microscope can be used for measurements and whether or not an adjustment is needed, as recited in claim 1, is neither anticipated nor rendered obvious by any prior art.

Claims 2-6 are also allowed because of its/their dependencies, either directly or indirectly, upon claim 1.

8. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Relevant Prior Art

9. This prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

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(a) USPAT # 5,825,670, issued on 10/20/1998 to Chernoff et al., which is found to claim a similar a subject matter as the present disclosure, including the steps of measuring X(i) coordinates of the edges of each line. However, Chernoff et al. do not recite the steps of approximating the measured coordinates with a straight line; calculating an average and a maximum of the deviation, and ultimately, comparing the maximum deviation with a predetermined tolerance value.

(b) US-PGPUB 2004/0021075 issued on 02/05/2004 to Nikitin, Arkady, which is found to claim a similar a subject matter as the present disclosure, including all the steps of measuring X(i) coordinates of the edges of each line and processing the measured values. However, Nikitin's purpose is to perform high accuracy measurements of sizes by, but not to evaluate the performance of, a scanning electron microscope, e.g., whether or not the latter needs a readjustment. Furthermore, the cited reference and the present application have a common inventor, such that a rejection under §103 would be easily overcome by an appropriate affidavit.

Communications

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bernard E Souw whose telephone number is 571 272 2482. The examiner can normally be reached on Monday thru Friday, 9:00 am to 5:00 pm..


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R Lee can be reached on 571 272 2477. The central fax phone

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number for the organization where this application or proceeding is assigned is (703) 872-9306 for regular communications as well as for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 0956.

bes
March 03, 2005


JOHN R. LEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800